

**ENZYME-MEDIATED MODIFICATION OF FIBRIN FOR TISSUE  
ENGINEERING**

**Abstract Of The Disclosure**

Matrices covalently bound to bidomain peptides or proteins, produced  
5 recombinantly or synthetically, contain a transglutaminase substrate domain and  
a bioactive factor. The bioactive factor is preferably a growth factor, such as  
VEGF, growth factors from the TGF- $\beta$  superfamily, PDGF, human growth  
hormone, IGF, and ephrin. Particularly preferred growth factors are TGF- $\beta$ 1,  
BMP 2; VEGF<sub>121</sub> and PDGF AB. The matrix material is crosslinkable, and may  
10 form a gel. These compositions are useful for tissue repair and regeneration.